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Pierre Girod

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YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

EXAMINER

EUSTAQUIO, CAL J

ART UNIT

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2612

NOTIFICATION DATE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

Office Action Summary	Application No. 10/592,933	Applicant(s) GIROD ET AL.
	Examiner CAL EUSTAQUIO	Art Unit 2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Claim Rejections-35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. **Claims 42-44, 70, and 76** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S.2004/0119848 and Ballantyne, U.S. 2003/0184440.

As to claim 42, Viljoen discloses the claimed:

A method for detecting a passage associated with an access door in order to guarantee passage of one person only, said method comprising the following steps:

determining a profile of a person by means of a vertical row of infra-red emitting cells (D1) arranged at an entry to a door opposite receiving cells connected to a control unit (CU) configured to manage a sampling and a frequency of emission of signals ([0013] and FIG.1 disclose using optical beams to determine the identity of a person or object traversing through the beam field);

Except for the claimed: analyzing said profile, said analyzing step comprising the following sub-steps: filtering zones of said profile in order to mask the zones or to eliminate interference zones; dividing said profile into zones which are processed separately; and as a function of said analyzing step, the access door is opened or remains closed.

As to the claimed “dividing said profile into zones which are processed separately,” Viljoen, while providing a set of optical beams to determine the identity of a passing object or person, doesn’t describe dividing the profile into zones. In the same art of detection and identification systems, Buehler, [0056] and [0101-0104] recites an camera based detection system that includes infrared capability in which a monitored area is divided up into a series of image boundary regions. For each video frame taken of a certain area, a corresponding matrix location is formed in a system computer. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi an infrared detection and identification system in which the monitored area is divided up into zones as dictated in Buehler. Therefore, as described in Buehler, dividing a monitored area into a matrix, which is analogous to the claimed “dividing said profile into zones” is not new in the art of infrared detection and one of ordinary skill would have likely provided such a known configuration and using known techniques to position IR detectors to monitor a selected area as described above would have provided the predictable claimed invention.

As to the above claimed “eliminating interference zones,” Viljoen includes elimination of power line glitches in [0034] in the signals that cover the detection area inherently comprised of zones for the person/object profile detection. However, Viljoen doesn’t include filtering the profile. In the same art of image recognition systems, Ballantyne, [0058-64] describes an object detection system proximate to the infrared region in which ambient or white light is considered to be noise, which is considered analogous to

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the claimed "interference." Ballantyne adds an optical filtering to the system to attenuate ambient light entering the imaging system. By adding optical filtering to the set of detectors associated with a particular monitored area, one is able to analogize the optical filtering of these particular detectors as elimination or mitigation of the claimed "interference zones." Hence, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi and Buehler the optical filtering system as described in Ballantyne to produce an infrared based detection system in which filtering is used to eliminate noise or interference. Such a system would provide for a more accurate way of identifying a monitored area using a technique that is known in the art of infrared detection systems.

As to the claimed "the access door is opened or remains closed," Viljoen, [0022], discloses controller 36 providing an alarm under appropriate circumstances. Viljoen, Buehler, nor Ballantyne disclose controlling an access door. In the same art of security systems, Risi, [0010] discloses a controller controlling the opening and closing of a doorway on the basis of detecting a security risk/situation, such as detecting contraband. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Buehler, and Ballantyne the contraband passageway doorway system disclosed in Risi to produce a combination that opens and closes a passageway door based on the identification of detected profiles. Such a system would have an advantage of preventing passage of a potentially threatening person without having to having security personnel directly physically detaining the person.

As to claim 43, Viljoen discloses the claimed: The method according to **claim 42**, wherein each zone is characterized as a function of a dimension of the zone in order to determine whether the zone corresponds to a person, a child or an object. Viljoen, as above in the rejection of **claim 42**, discloses using a series of infra-red cells to determine the detected object or person shown in FIG. 4. The detection of the

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classified objects or persons shown discloses that different objects/persons meet different height criteria in order for the object to be classified in FIG. 4. This means that different infra-red cells disclosed in the detection passageway disclosed in FIG. 1 detects at certain heights which would meet the claimed “zone is characterized as a function of a dimension of the zone in order to determine whether the zone corresponds to a person, a child or an object.”

As to claim 44, Viljoen discloses except for the claimed: Method according to **claim 2**, characterized in that each zone is characterized as a function of its dimension in order to determine whether the zone corresponds to a person, a child or an object. Viljoen, as disclosed in [0034] and FIG. 4, discloses an ability to detect persons as well as dogs. However, Viljoen doesn't specifically disclose detecting children. Viljoen discloses a person crawling as well as a dog. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the capability of detecting a child based on the known detecting schemes set up to detect a person and a dog. If Viljoen discloses having capabilities for detecting a dog, a person, and a person crawling, Viljoen therefore suggests that a child, which is a smaller version of an adult and one who is also known for crawling, would be identifiable as a child as Viljoen. Therefore, one of ordinary skill in the art would have known/recognized the existence of these features as alternative embodiments in Viljoen in view of Risi which would allow a user a greater breadth of identifying additional images for increased identification.

As to claim 70, the combination of over Viljoen, Risi, Buehler, and Ballantyne disclose the claimed: A device for detecting a passage associated with an access door in order to guarantee passage of one person only, comprising:

- a first detection level formed by a vertical row of active infrared emitting cells (DI) arranged opposite a vertical row of receiving cells configured to determine a profile of a person entering a control

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point, the cells being connected to a central processing unit (CPU) configured to manage a sampling and a frequency of emission of the signals;

- means for analyzing said profile, said analyzing means comprising:

- means for filtering zones of said profile in order to mask them or to eliminate interference zones, and
 - means for dividing said profile into zones which are processed separately; and

- means for controlling an opening of the access door and for maintaining the door in a closed state.

See rejection of **claim 42**.

As to claim 76, the combination of Viljoen, Risi, Buehler, and Ballantyne discloses the claimed: The device according to **claim 70**, wherein the central processing unit (CPU) is configured to communicate with the different detection levels, the CPU connected to a memory (M) comprising an architecture of profiles, the CPU configured to perform a comparison the profiles determined by the sensors (D1, D2, D3, D4) to the stored profiles contained in the memory, and to control as a function of the results of this comparison the opening of the access door, maintaining the door in closed state and triggering an alarm. See rejection of **claim 42**.

2. **Claims 57, 71, and 78** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848, and Ballantyne, U.S. 2003/0184440 and Burley, U.S. 5,001,558.

As to claim 57, the combination of Viljoen, Risi, Buehler, and Ballantyne disclose except for the claimed: the method according to **claim 42**, wherein the presence of a cold body is detected by means of a second detection level formed by at least one passive infrared cell (D2). In the same art of thermal detection, Burley, col. 2, lines 64-68, discloses the use of an infrared sensing system that has the ability to discern cold objects from warm objects. It would have been obvious to one of ordinary skill in the art at the

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time of the claimed invention to include into the combination of Viljoen, Risi, Buehler, and Ballantyne the infrared detection system disclosed in Burley to produce a system that includes detection of a cold object. As disclosed in Burley, such a system is not new in the art and a user would have the added advantage of having an increase spectrum of thermal images to observe that includes objects of interest other than warm blooded individuals.

As to claim 71, the combination of Viljoen, Risi, Buehler, and Ballantyne disclose except for the claimed: The method according to **claim 70**, further comprising: a second detection level formed by a passive infrared cell (D2) configured to detect the presence of a cold body. Viljoen, Risi, Buehler, and Ballantyne, as in the rejection of **claim 42**, disclose detecting a person or thing traversing through a set of infrared detectors. However, neither discloses infrared cells detecting the presence of cold body. In the same art of thermal detection, Burley, col. 2, lines 64-68, discloses the use of an infrared sensing system that has the ability to discern cold objects from warm objects. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, Buehler, and Ballantyne the infrared detection system disclosed in Burley to produce a system that includes detection of a cold object. As disclosed in Burley, such a system is not new in the art and a user would have the added advantage of having an increase spectrum of thermal images to observe that includes objects of interest other than warm blooded individuals.

As to claim 78, Viljoen, Risi, Buehler, and Ballantyne disclose the claimed: The device according to **claim 71**, wherein the passive infrared cells (D2) comprises at least two cells arranged one above the other at the entry (1) and orientated so as to send their beam transversely to the passage. See FIG. 1. Except for the claimed: to the door. But Viljoen, Buehler, and Ballantyne don't disclose providing a door through which the claimed infrared sensors are placed. In an additional embodiment of security systems, Risi, FIG.1

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and [0009] discloses a door used regulate passage of personnel. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, Buehler, and Ballantyne the additionally described doorway system disclosed in Risi to have a personnel passage security system that includes a doorway. The infrared detection system disclosed in Viljoen is an alternative embodiment of the detection system disclosed in Risi. One of ordinary skill in the art would have known/recognized that such features would be alternative embodiments usable in the above combination and would have created the combination as claimed with a likelihood of success.

3. **Claim 80** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Eckstein, U.S. 7,081,818.

As to **claim 80**, Viljoen, Risi, Buehler, and Ballantine recite except for the claimed: The device according to **claim 70**, in which the access door is bidirectional, wherein an entry (1) to and the exit (2) from the door each comprise a group of sensors (D1, D2, D3, D4) having identical functions. Viljoen, while disclosing a security monitoring system equipped with a set of sensors, as disclosed in **claim 42**, Viljoen doesn't disclose the monitoring system including an access door that is bidirectional. In the same art of personnel security systems, Risi, in the Abstract and FIG. 4, discloses a security portal that allows passage through its system in both directions. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the bidirectional door system disclosed in Risi to produce a personnel security system that has bidirectional doors. Such a system, as disclosed in Risi, would allow a traveler or other approved item through the system but would disallow unapproved personnel or items which would before forced back through the entrance.

As to the claimed a group of sensors having identical functions in which each entry and exit from each door comprises a group of sensors having identical functions, Viljoen discloses at least one set of sensors in FIG. 1 providing detecting and identifying functions to the system, but Viljoen nor Risi disclose each door in which each entry and exit comprises a group of sensors having identical functions. In the same art of identification and tracking systems, Eckstein, FIG. 1 and col. 8, lines 33-45, discloses a sensing system laid along the path of an object which identifies and tracks the object along its path. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi the scheme of placing sensors along the path of a detected and tracked object, however, using the infrared systems disclosed in Viljoen, to produce a system that monitors and tracks objects and individuals going through a passageway that would include sensors placed in the entrance and exit points of the passageway. Such a system would have the advantage of giving the user redundant detecting, identifying, and tracking information and if in case one set of sensors are defective, the second set of sensors would provide continual protective functions.

4. **Claim 45** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Garoutte, U.S. 2010/0074472.

As to claim 45, the combination of Viljoen, Risi, Buehler, and Ballantyne discloses except for the claimed: Method according to **claim 42**, characterized in that each zone does not the ground is characterized in order to distinguish a carried chilled from an item of luggage. Viljoen, FIG. 4 and [0026] discloses a personnel security identifying system having the ability to identify what types of persons, objects, and animals are detected. Included in the figures are images of a man walking, a man crawling, and a dog walking, each one of which is shown in contact with the ground. Viljoen does not disclose the claimed

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“characterized in that each zone does not the ground is characterized in order to distinguish a carried chilled from an item of luggage.” In the same art of security image processing, Garoutte, FIG. 1, FIG. 2, FIG. 11, [0027], and [0181-183] discloses a security imaging system. The above figures suggest that Garoutte has the ability to identify persons with luggage in which the luggage is shown off of the ground. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, Buehler, and Ballantyne the imaging system disclosed in Garoutte to produce a system that includes the ability to discern persons. As shown above, Viljoen discloses the ability to identify persons as well as dogs. Garoutte suggests that persons with luggage can also be identified. Therefore, if Viljoen can distinguish persons from dogs while Garoutte can distinguish a person with baggage, then the resultant combination would allow for identification and discernment

5. **Claim 50** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Garoutte, U.S. 2010/0074472 and Brodsky, U.S. 2008/0226127.

As to **claim 50**, Viljoen, Risi, Buehler, and Ballantyne discloses except for the claimed: The method according to **claim 42**, wherein after identification of a zone not touching the ground, a child or a bag is identified as a function of a volume of the zone. Viljoen, FIG. 4 and [0026] discloses a personnel security identifying system having the ability to identify what types of persons, objects, and animals are detected. In the same art of security image processing, Garoutte, FIG. 1, FIG. 2, FIG. 11, [0027], and [0181-183] discloses a security imaging system. The above figures suggest that Garoutte has the ability to identify persons with luggage/bag. Furthermore, Risi, [0031], discloses a security entrance system which detects weight of anything within the chamber while Brodsky, [0044], discloses a personnel and object tracking system that includes the ability to classify person-objects within a given minimum height and maximum

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width. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the weight measurement feature disclosed in Risi and the imaging system that detects baggage which is disclosed in Garoutte to produce a system that includes the ability to discern the differences between personnel and baggage as well as the volume of the same. As shown above, Viljoen discloses the ability to identify persons as well as dogs. Garoutte suggests that persons with luggage can also be identified while Brodsky discloses detecting objects within a chamber by measuring the height and width of the object. Therefore, if Viljoen can distinguish persons from dogs while Garoutte can distinguish a person with baggage, Risi can distinguish weight while Brodsky can discern height and length dimensions, then the resultant combination would allow for identification of volume of objects detected which carries with it a discernment between persons carrying luggage, and persons carrying children. Such a system would allow security personnel to focus on persons with luggage that have a higher likelihood of carrying contraband material.

6. **Claims 46 and 51** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408.

As to **claim 46**, Viljoen, Risi, Buehler, and Ballantyne discloses except for the claimed: The method according to **claim 42**, characterized in that an additional filtering is carried out in order to eliminate backward movements of the person. Viljoen while disclosing a detection and identification system for personnel and objects, doesn't disclose a system that includes detecting and eliminating the backward movements of personnel. In the same art of personnel detection and monitoring, Trajkovic suggests in FIG. 5, that personnel walking in different directions are tracked going in different directions. Furthermore, [0029] and FIGS. 4 and 5 discloses that the direction and speed of individuals are detected. [0034] discloses

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map coloring of traffic flow of personnel traversing through a certain area. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, Buehler, and Ballantyne the cataloging, personnel tracking, and traffic mapping system disclosed in Trajkovic to produce a system that would consider the traffic movements of individuals going one direction without out consideration of the backwards movement of an individual within that traffic flow. Traffic flow is defined as a movement of a group of individuals or items traversing through a certain area. If there is flow, there is movement in a singular direction. Traffic flow considers the averaging of the mass flow of personnel going through one direction. As a result, the movements of an individual reversing course would not be heeded or taken into consideration with respect to the entire movement of traffic going in the opposite direction, which has the effect of filtering out that individual's course reversal. Such a system would eliminate any anomalies provided by the individual and allow a user to ascertain the general flow or direction of traffic made by the majority of personnel.

As to claim 51, Viljoen discloses except for the claimed: The method according to **claim 42**, characterized in that after filtering ([0034] elimination of power line glitches), except for the claimed: and before dividing into zones, the passage of several people side by side is detected. Neither Viljoen, Risi, Buehler, and Ballantyne discloses detecting several people who are side by side. In the same art of personnel detection systems, Trajkovic, FIG. 5 and [0029], discloses detecting individuals, including those who walk side-by-side. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen and Risi the multiple personnel detection system disclosed in Trajkovic to produce a system that includes the ability to detect more than one individual walking abreast. Such a system would inform security personnel that a dual threat exists and to take appropriate action to counter the same. Furthermore, although the claim discloses detecting personnel

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side by side "before dividing into zones," one of ordinary skill in the art would have known/recognized it would have been obvious to detect personnel before classifying them. Before one can classify an object, one must first detect the object as a matter of a logical order of operation.

7. **Claims 53 and 69** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 and Glier, U.S. 6,760,061.

As to claim 53, Viljoen discloses except for the claimed: The method according to **claim 42**, wherein, by means of a speed sensor (D3), a speed of passage of the person is determined and the profile created by the first detection level is modified in order to obtain an independent profile independent of the speed of passage. Viljoen doesn't disclose the above limitations. In the same art of detecting and tracking systems, Glier, col. 11, lines 31-52, discloses a vehicle observation and tracking system that includes an algorithm for correcting the blur made of a vehicle's motion. The algorithm corrects for the blur by bringing back the scan lines to produce an image as though the vehicle were standing still (which is the disclosed the speed of passage of the person is determined and the profile created by the first detection level is modified in order to obtain a profile independent of the speed of passage). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, and Trajkovic the known feature of a blur correcting function disclosed in Glier to produce a detection and identification system that includes the known use of blur correction features. Such a feature renders otherwise unreadable captured images into useful images and one of ordinary skill would have recognized the usefulness of this feature and thusly would have incorporated such a feature as known in the art of personnel tracking systems as claimed with a likelihood of success.

As to **claim 69**, Viljoen discloses except for the claimed: Method according to **claim 53**, wherein by means of the speed sensor (D3) a person turning back on themselves is detected. Viljoen, as disclosed earlier, includes profiles of a person in a horizontal position (crawling), a person in a vertical position (walking), and a dog walking. Viljoen also discloses in FIG. 4, the profile of a car. Viljoen doesn't disclose a person turning back on themselves is detected. In the same art of personnel monitoring and detection systems, Trajkovic, FIG. 4 and 5, and [0029] discloses the detection and tracking of personnel moving in two different directions. Also, Trajkovic, as above, discloses a system that includes the ability to determine the direction and speed of individuals. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the speed detection and direction detection system disclosed in Trajkovic to produce a combination between Viljoen, Risi, Trajkovic and Glier that includes the capability of determining the speed of a suspect and the direction of travel of the suspect. Such a system would assist security personnel in tracking suspects who are displaying characteristics of evasive behavior, such as running or walking swiftly and changing directions.

8. **Claim 54** is rejected under 35 U.S.C. 103(a) as being obvious Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 and Glier, U.S. 6,760,061 and Petrovsky, U.S. 4,184,156.

As to **claim 54**, Viljoen discloses except for the claimed: The method according to **claim 53**, wherein the speed of passage is determined by means of a Doppler radar (D3). Viljoen, Risi, Trajkovic, and Glier don't disclose the above limitations. In the same art of identification and tracking, Petrovsky, col. 2, lines 15-22, discloses a Doppler radar for measuring speed of objects. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, Trajkovic, and Glier the Doppler radar system disclosed in Petrovsky to produce a detection system that includes the ability

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to measure a person's speed using Doppler radar. Doppler radar is an alternative and different variant of the infrared sensor disclosed in **claim 43** and one of ordinary skill in the art would have known/recognized that the addition of this feature would allow a security user to identify a suspect who may be in flight from the law, as opposed to the activity of a passenger who may not display the same exigent behavior.

9. **Claim 55** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 and Glier, U.S. 6,760,061 and Brodsky, U.S. 2008/0226127.

As to **claim 55**, Viljoen discloses except for the claimed: The method according to **claim 53**, characterized in that the speed of passage is determined by means of a distance sensor. Viljoen, Risi, Trajkovic, and Glier don't disclose detecting the speed of an individual traversing through its passageway using a distance sensor. In the same art of personnel and object detection systems, Brodsky, [0019-20] discloses detecting the speed of an individual traversing through its system. Detecting speed is defined as using any sensing means to measure a rate of distance traveled over a unit of time. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, Trajkovic, and Glier the speed detection system disclosed in Brodsky to produce a system that includes measuring the velocity of a person traversing through a passageway. Such a system allows a user to ascertain if the individual who may be traveling at higher than normal speeds, is a person who may be in flight from law enforcement.

10. **Claim 56** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 and Glier, U.S. 6,760,061 and Eckstein, U.S. 7,081,818.

As to **claim 56**, Viljoen discloses except for the claimed: The method according to **claim 53**, wherein the speed of passage is determined by means of successively passing through at least two infrared barriers. As disclosed in **claim 43**, Viljoen utilizes a set of infrared beams but doesn't disclose a second set of infrared beams to determine successful passage. In the same art of identification and tracking systems, Eckstein, FIG. 1 and col. 8, lines 33-45, discloses a sensing system laid along the path of an object which identifies and tracks the object along its path. Furthermore, Eckstein, col. 12, lines 8-15, discloses determining the speed of a customer traversing through a retail store. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi, Trajkovic, and Glier, the scheme of placing sensors along the path of a detected and tracked object, however, instead of using the different tracking systems used in Eckstein to track the individual, the systems would instead be utilizing the infrared systems disclosed in Viljoen to track the velocity of the individual, the series of detection circuitry meeting the claimed "second set of infrared beams to determine successful passage", to produce a system that monitors and tracks objects and individuals going through a passageway that would include at least two sets of sensors placed in the security passage. Such a system would have the advantage of giving the user a confirmation of detecting, identifying, and tracking information of a first set of sensors by the use of a second set of sensors and if in case one set of sensors is defective, the second set of sensors would provide continual surveillance functions.

11. **Claims 47 and 48** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Brodsky et al, U.S. 2008/0226127.

As to **claim 47**, Viljoen and Risi discloses except for the claimed: The method according to **claim 42**, wherein the profile is reduced to a true size. Viljoen, as disclosed in FIG. 4 and [0026], shows detected

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figures reduced to a set of graphical images that show a likelihood of what the graphical images represent. Neither Viljoen nor Risi disclose reducing a figure to its true size. In the same art of personnel barrier security systems, Brodsky, [0044], discloses a personnel and object tracking system that includes the ability to classify person-objects within a given minimum height and maximum width, which suggests that the detection system in Brodsky reduces the detected object to the claimed "true height." It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen and Risi the height classification system disclosed in Brodsky to produce a security detection system includes a feature of defining detected personnel according to height. Such a system represents a known alternative embodiment to personnel detection and classification system and one of ordinary skill in the art would have known/recognized that such a feature exists and would have a likelihood of success in incorporating this known feature into a system as claimed.

As to claim 48, Viljoen discloses except for the claimed: The method according to **claim 42**, wherein after dividing the profile into zones, the size and the volume of each zone is determined. Viljoen, while disclosing in **claim 42**, image identification, Viljoen doesn't disclose determining the size and volume of each zone. In the same art of personnel barrier security, Risi, [0031], discloses a security entrance system which detects weight of anything within the chamber while Brodsky, [0044], discloses a personnel and object tracking system that includes the ability to classify person-objects within a given minimum height and maximum width. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to discern from the weight sensing mechanism of Risi and the height and width classification scheme disclosed in Brodsky to produce a system in which the volume of a detected object can be ascertained based on detecting weight and height as disclosed in Risi and Brodsky. One of ordinary skill in the art would have known/recognized that these dimensions are interrelated and would have likely

introduce such a system into the above combination to ascertain the size and weight of a potential threat detected in the system so appropriate security measures may be issued to counter the perceived threat.

12. **Claim 49** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Flickner et al, U.S. 2003/0107649.

As to **claim 49**, Viljoen and Risi discloses except for the claimed: The method according to **claim 42**, wherein after identification of a zone touching the ground, a trolley or bag is identified as a function of the volume of the zone. As disclosed in **claim 42**, Viljoen, [0010] and FIG. 4, discloses using a set of detectors and sensors to provide identification of persons, animals, or cars. Viljoen doesn't disclose identification of bags or trolleys. In the same art of visual identification and classification systems, Flickner, FIG. 3B and [0028], discloses a similar identification system that provides images four individuals and a shopping cart. The claimed "trolley" is taken to synonymously include shopping carts as the one disclosed. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi the identification scheme disclosed in Flickner to produce a security identification system that includes the identification of carts. Such a system would enable user to discern personnel from baggage and utilize the imaging system to single out questionable baggage noted in a security situation.

13. **Claim 52** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 Garoutte, U.S. 20100074472 and Flickner et al, U.S. 2003/0107649.

As to **claim 52**, Viljoen in view of Risi discloses the method of **claim 1**, except for the claimed: characterized in that from the profile obtained, in particular: a fourth person jumping, a first person accompanied by a first child, two people following one another very closely, a third person moving

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forwards then backwards and moving forwards again, a second child following a large trolley, a fifth person carrying a backpack, a sixth person carrying a child on their back are detected. Viljoen discloses, in FIG. 4, a person walking, a dog walking, and a person crawling. Risi, [0031], discloses a security entrance system which detects weight of anything within the chamber. While Viljoen doesn't directly disclose a person who is jumping, Viljoen discloses at least the ability to detect profiles of a person in a horizontal position (crawling), a person in a vertical position (walking), and a dog walking. One of ordinary skill in the art would have known/recognized that an additional feature of transitioning from a shorter profile to a taller profile accompanied by the detection of a changing weight in a chamber would have at least indicia of a person performing a jumping-like routine in a system such as taught by Viljoen and Risi. Such a system would have the advantage of detecting sudden movements or other strange behaviors which may indicate problematic passengers which may need investigation by security personnel.

As to the claimed: the profile obtained that includes: a person accompanied by a child, two people following one another very closely, a person moving forwards then backwards and moving forwards again, Viljoen, as disclosed earlier, includes profiles of a person in a horizontal position (crawling), a person in a vertical position (walking), and a dog walking. Viljoen also discloses in FIG. 4, the profile of a car. Viljoen doesn't disclose a person accompanied by a child, two people following one another very closely, a person moving forwards then backwards and moving forwards again. In the same art of personnel monitoring and detection systems, Trajkovic, FIG. 4 and 5, and [0029] discloses the detection and tracking of personnel moving in two different directions. The above figures also show persons walking closely together. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the personnel detection and tracking system disclosed in Trajkovic to produce a system that includes the capability of detecting the movements of persons and their collocation to other individuals as well as the

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ability to identify the individuals in the detected profiles. Since Viljoen discloses an ability to discern a walking person from a crawling person and a walking dog, one of ordinary skill in the art would have recognized that there is a likelihood that Viljoen has the capability to identify a child compare to an adult based on the size of the other profiles given in the reference. Furthermore, Trajkovic discloses the ability to detecting the movements of individuals. Hence, one of ordinary skill in the art would have recognized that using this feature of Trajkovic, one could conceivably detect a person moving backwards and then forwards, as well as personnel following closely to one another. Such a combination would allow security personnel added capabilities of determining likely sources of potential threats (since children, or parents accompanying children would presumably pose the least threats), and if there is a hostage situation or a possible criminal enterprise involving at least two or more personnel in close association with each other.

As to the claimed: the profile obtained that includes a child following a large trolley, Viljoen, as disclosed earlier, includes profiles of a person in a horizontal position (crawling), a person in a vertical position (walking), and a dog walking. Viljoen also discloses in FIG. 4, the profile of a car. Viljoen doesn't disclose including profiles of a child following a large trolley. In the same art of security detection and identification, Flickner, FIG. 3b, discloses a shopping card 119 and group of people 118 in the same frame as the shopping cart. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi the detection and imaging system disclosed in Flickner to produce a system that includes personnel collocated next to a shopping cart. Although the claimed limitations disclose a "trolley," one of ordinary skill in the art would have understood both terms are interchangeable. Furthermore, if Viljoen could discern between a walking person, a crawling person, and an animal, one of ordinary skill in the art would have understood that Viljoen, Risi and Flickner could also include the profile

of a child. Such a combination would allow security personnel to concentrate resources on monitoring the most likely sources of contraband and criminal activity, which is in a trolley, rather than on a child.

As to the claimed: the profile obtained that includes a person carrying a child on their back are detected, and, a person carrying a backpack, Viljoen, as disclosed earlier, includes profiles of a person in a horizontal position (crawling), a person in a vertical position (walking), and a dog walking. Viljoen also discloses in FIG. 4, the profile of a car. Viljoen doesn't disclose including profiles of a person carrying a child on their back, or a person carrying a backpack. In the same art of security detection and identification, Garoutte, FIG. 1, FIG. 2, FIG. 11, [0027], and [0181-183] discloses a security imaging system. The figures suggest that Garoutte has the ability to identify persons with luggage. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen a profile identification system that includes the ability to identify persons with baggage. If Viljoen can discern between different profiles of personnel, which was found to be obvious in also detecting the profile of a child, and Garoutte's embodiment of identifying a person with luggage, it would have been therefore obvious that the above combination would also have the ability to distinguish personnel carrying children, as in the claimed "piggybacked child" limitation, and a person who is carrying luggage, as claimed in the "person carrying a backpack" limitation. Such a combination would allow security personnel to concentrate resources on monitoring the most likely sources of contraband and criminal activity, which are luggage, rather than on a child.

14. **Claims 58-60 and 67** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Burley, U.S. 5,001,558 and Trajkovic, U.S. 2002/0167408.

As to claim 58, the combination of Viljoen, Risi, and Burley discloses except for the claimed: The method according to **claim 57**, wherein the second detection level precedes a third detection level which is constituted by the movement direction sensor (D3). Neither Viljoen, Risi, Buehler, Ballantyne, nor Burley discloses a detection level that includes a movement direction sensor. In the same art of physical security passageway systems, Trajkovic, [0029], discloses a system that includes the ability to determine the direction and speed of individuals. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, and Burley, the directional sensing system disclosed in Trajkovic to produce a system that includes detecting the direction of travel as well as the speed of an individual. Such a system would allow security forces which direction a potential miscreant might go and intercept the individual accordingly.

As to claim 59, the combination of Viljoen, Risi, Buehler, Ballantyne, Burley and Trajkovic discloses for the claimed: The method according to **claim 58**, wherein the third detection **level** precedes a fourth detection level which is constituted by the speed sensor (D3). See rejection of **claim 58**.

As to claim 60, the combination of Viljoen, Risi, Buehler, Ballantyne, and Burley, discloses except for the claimed: The method according to **claim 59**, wherein, by means of a fifth detection level (D4) the simultaneous passage of two people is detected. Neither Viljoen, Risi, Buehler, Ballantyne, and Burley, discloses the above limitations. In the same art of personnel detection systems, Trajkovic, FIG. 5 and [0029] discloses detecting two personnel traversing abreast. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, and Burley, the simultaneous personnel detection scheme disclosed in Trajkovic to produce a personnel detection system that includes the ability to detection of simultaneous individuals. Such a system would allow security personnel users to determine if more than one threat appears in a secured passageway.

As to **claim 67**, Viljoen except for the claimed: The method according to **claim 60**, wherein the detection is carried out by two crossed series of level 1 sensors. Viljoen, as in **claim 42**, discloses the use of infrared sensors in its detection and security classification system. However, Viljoen doesn't disclose the sensors set at a crossed configuration. . In the same art of detection and tracking systems, Trajkovic, FIG. 10 and [0029] discloses cameras disposed in a cross-pattern. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the infrared detection scheme disclosed in Viljoen, Risi, Buehler, Ballantyne, and Burley the cross-pattern camera-sensor positioning scheme disclosed in Trajkovic to produce a system that uses cross-patterns of infrared detection devices. Such a system, as disclosed in Trajkovic, [0029], allows the use of multiple cameras or sensors with overlapping fields of view. Using known image processing techniques, the heights of the heads of individuals may be obtained. Using this information, non-human objects moving through a scene or left behind may be better distinguished from visitors reducing errors in counting or observation.

15. **Claim 68** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Burley, U.S. 5,001,558 and Trajkovic, U.S. 2002/0167408 and Inaba, U.S. 2002/0030594.

As to **claim 68**, Viljoen discloses except for the claimed: Method according to **claim 60**, characterized in that the detection is carried out by a capacitive measurement system sensitive to the dielectric characteristics of the human body. Viljoen discloses the use of infrared sensors to detect and classify personnel. However, neither Viljoen, Risi, Burley nor Trajkovic disclose the use of capacitance measurement devices to detect personnel. In the same art of security systems, Inaba, [0008] discloses the use of human body-detecting capacitance-type sensors in a security system to detect the presence of a human-being. It would have been obvious to one of ordinary skill in the art at the time of the claimed

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invention to include into Viljoen, Risi, Burley, and Trajkovic the body capacitance detection system disclosed in Inaba to produce a security detection system that includes the uses of capacitive measurement devices to detect the presence of personnel. Inaba discloses an alternative embodiment of a type of detection sensor which can be used along with or in substitution to the infrared detectors disclosed in Viljoen. One of ordinary skill in the art would have known of such a feature and would have likely produced the above sensing system that includes the human capacitance sensor with a likelihood of success.

16. **Claim 61** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Burley, U.S. 5,001,558 and Trajkovic, U.S. 2002/0167408 and Prehn, U.S. 2003/0117280.

As to claim 61, the combination of Viljoen, Risi, Buehler, Ballantyne, Burley, and Trajkovic discloses except for the claimed: Method according to **claim 60**, characterized in that the detection is carried out by means of ultrasonic sensors (D4) arranged transversely to the passage. As disclosed in Viljoen, [0013], infrared beams are used to detect personnel traversing through the system. However, neither Viljoen, Risi, Burley, and Trajkovic disclose the use of ultrasonic detectors. In the same art of security detection systems, Prehn, [0031], discloses the use of ultrasonic detectors as well as photo electric eyes and infrared detectors to monitor the movement of individuals in a security system. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, Burley, and Trajkovic the alternative embodiment of using ultrasonic detectors to detect personnel as disclosed in Prehn to produce a security detection system that includes using ultrasonic detectors. As disclosed in Prehn, use of ultrasonic detectors is not new in the art and one of ordinary skill in the art would have known/recognized that such a detection scheme exists for security systems and therefore,

one of ordinary skill would have had a likelihood of success incorporating this feature into the above combination found in the claimed limitations.

17. **Claims 62 and 63** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Burley, U.S. 5,001,558 and Trajkovic, U.S. 2002/0167408 and Prehn, U.S. 2003/0117280 and Denimarck, U.S. 2003/0018522.

As to claim 62, Viljoen, Risi, Buehler, Ballantyne, Burley, and Trajkovic discloses except for the claimed: The method according to **claim 61**, wherein the detection is carried out by means of a laser cooperating with a rotating mirror in order to determine the profile in a plane perpendicular to the profile itself. As previously disclosed in **claim 42**, Viljoen discloses detecting objects using infrared detection. However, Viljoen, Risi, Burley, nor Trajkovic discloses using a means of detection using a rotating mirror and laser. In the same art of security systems, Denimarck, [0063], discloses the use of a rotating mirror and laser beam system to identify a person. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, Burley, and Trajkovic, the rotating mirror and laser detection system disclosed in Denimarck to produce a personnel detection system that includes the use of rotating mirror/laser systems. Such a system, as disclosed in Denimarck, is an alternative embodiment of a personnel detection system and one of ordinary skill in the art would have been able to include such an implementation into the above combination as claimed in the invention with a likelihood of success.

As to claim 63, Viljoen discloses the claimed: The method according to **claim 61**, wherein the detection is carried out by means of recognition of an image taken facing the passage configured to determine the profile in a plane perpendicular to the profile itself. FIG. 1 shows IR emitters and sensors

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across two sensing areas. As the subject passes through the area, the emitters provide a scan in a perpendicular manner to the subject as claimed.

18. **Claim 64** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Burley, U.S. 5,001,558 and Trajkovic, U.S. 2002/0167408 and Prehn, U.S. 2003/0117280 and Nahata, U.S. 2001/0052839.

As to **claim 64**, Viljoen discloses except for the claimed: Method according to **claim 61**, wherein the detection is carried out by means of a capacitive measurement (DMI). Viljoen, as disclosed in **claim 42**, utilizes infrared sensors to provide detection of personnel located within a security area. Viljoen doesn't disclose the use of capacitance measure to determine detection of a person. In the same art of personnel security detection system, Nahata, [0008] discloses the use of capacitance sensors to aid a security system in determining the approach of an operator going toward the detection devices. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, Buehler, Ballantyne, Burley, Trajkovic, and Prehn, the capacitance detection system of Nahata to produce a security system that includes the use of capacitance detection systems. As disclosed in Nahata, use of capacitance detectors is not new in the art and one of ordinary skill in the art would have known/recognized that such a detection scheme exists for security systems and therefore, one of ordinary skill would have had a likelihood of success incorporating this feature into the above combination found in the claimed limitations.

19. **Claim 65 and 66** are rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and

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Burley, U.S. 5,001,558 and Trajkovic, U.S. 2002/0167408 and Prehn, U.S. 2003/0117280 and Flickner et al, U.S. 2003/0107649.

As to claim 65, Viljoen discloses the claimed: The method according to **claim 61**, wherein the detection is carried out by means of distance sensors in order to detect the position of the feet in order to determine: a) if a person's legs are far apart (FIG. 4, element 48).

Except for the claimed: b) if a person has a trolley beside them, c) if two people are passing through side by side.

As to the claimed “c) if two people are passing through side by side,” Viljoen discloses detecting and identifying persons walking, but doesn’t disclose two persons walking side-by-side. In the same art of personnel detection and identification systems, Trajkovic, FIG. 5 and [0029], discloses personnel detection system that includes examples of persons walking abreast. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the personnel detection system disclosed in Trajkovic to produce a system that also detects personnel walking side-by-side. Such a system would have the advantage of detecting more than one person in a system as opposed to systems that normally screen and detect one person, which includes doubling the traffic flow through a security system.

As to the claimed” b) if a person has a trolley beside them,” Viljoen, FIG. 4, discloses detecting and providing images representing automobiles but doesn't include detection and representation of a person with a trolley beside them. In the same art of personnel detection systems, Flickner, FIG. 3B and [0028], discloses a similar identification system that provides images of individuals and a shopping cart. The claimed “trolley” is taken to synonymously include shopping carts as the one disclosed and is shown in FIG. 3B next to the cart. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi the identification scheme disclosed in Flickner to produce a

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security identification system that includes the identification of carts. Such a system would enable user to discern personnel from baggage and utilize the imaging system to single out questionable baggage noted in a security situation.

As to **claim 66**, Viljoen, Risi, Buehler, and Ballantyne discloses except for the claimed: The method according to **claim 65**, wherein in temperature sensors are used to distinguish between the person beside a trolley and the two people passing though side by side. Viljoen discloses the use of infrared cells to perform detection and tracking of personnel and objects but Viljoen, Risi, Buehler, nor Ballantyne disclose using temperature sensors to distinguish between body parts and objects, as in the claimed “the person beside a trolley and the two people passing though side by side.” In the same art of detection systems, Burley, col. 2, lines 64-68, discloses the use of an infrared sensing system that has the ability to discern cold objects from warm objects. Furthermore, FIG. 3, and col 3, lines 25-30, discloses the temperature detection system distinguishing a person and the taillights shown on the vehicle. The disclosed figure suffices to meet the claimed distinguishing a "person next to a trolley.” Furthermore, because the figure discloses distinguishing features that would allow a person tell the vehicle details apart from a person standing next to the car, it stands to reason that this level of detailed detection would allow a user to distinguish between personnel standing side by side. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen and Risi the infrared detection system disclosed in Burley to produce a system that includes detection of a cold object that would be included in the full combination of Viljoen, Risi, Burley, Trajkovic, and Prehn. As disclosed in Burley, such a system is not new in the art and a user would have the added advantage of having an increase spectrum of thermal images to observe that includes objects of interest other than warm blooded individuals.

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20. **Claim 72** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Glier, U.S. 6,760,061.

As to **claim 72**, Viljoen and Risi discloses except for the claimed: The method according to **claim 70**, further comprising a speed sensor (D3) configured to determine the speed of passage of the person, means for modifying the profile determined by the first detection level in order to obtain an independent profile independent of the speed of passage, means for comparing the obtained independent profile with an architecture of profiles contained in memory. Viljoen and Risi do not disclose the above limitations. In the same art of detecting and tracking systems, Glier, col. 11, lines 31-52, discloses a vehicle observation and tracking system that includes an algorithm for correcting the blur made of a vehicle's motion. The algorithm corrects for the blur by bringing back the scan lines to produce an image as though the vehicle were standing still (which is the disclosed the speed of passage of the person is determined and the profile created by the first detection level is modified in order to obtain a profile independent of the speed of passage). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen and Risi the known feature of a blur correcting function disclosed in Glier to produce a detection and identification system that includes the known use of blur correction features. Such a feature renders otherwise unreadable captured images into useful images and one of ordinary skill would have recognized the usefulness of this feature and thusly would have incorporated such a feature as claimed with a likelihood of success.

21. **Claims 73 and 74** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Glier, U.S. 6,760,061 and Petrovsky, U.S. 4,184,156.

As to claim 73, Viljoen discloses except for the claimed: The method according to **claim 72**, wherein the means for determining the speed of passage is include a Doppler radar (D3). Viljoen, Risi and Glier do not disclose the above limitations. In the same art of identification and tracking, Petrovsky, col. 2, lines 15-22, discloses a Doppler radar for measuring speed of objects. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi and Glier the Doppler radar system disclosed in Petrovsky to produce a detection system that includes the ability to measure a person's speed using Doppler radar. Doppler radar is an alternative and different variant of the infrared sensor disclosed in **claim 42** and one of ordinary skill in the art would have known/recognized that the addition of this feature would allow a security user to identify a suspect who may be in flight from the law, as opposed to the activity of a passenger who may not display the same exigent behavior.

As to claim 74, the combination of Viljoen, Risi, Buehler, Ballantyne, Trajkovic, Glier, and Petrovsky discloses the claimed: The device according to **claim 72**, wherein the second detection level precedes a third detection level which is constituted by the speed sensor (D3). See rejection of **claim 73**.

22. **Claim 77** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Glier, U.S. 6,760,061 and Petrovsky, U.S. 4,184,156 and Waehner et al., U.S. 2007/0133844.

As to claim 77, Viljoen discloses except for the claimed: The device according to **claim 74**, wherein the radar (D3) of the third detection level is arranged at a certain distance from the entry (1) to the access door and is orientated so as to send its beam towards this entry (1). Viljoen, as previously disclosed, uses a set of infrared detectors to determine the presence and identity of a subject brought before its security system. Viljoen, Risi, Glier, nor Petrovsky disclose any particular configuration in which the security system is set up that meets the limitations. In the same art of electronic security systems, Waehner, FIG. 1,

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FIG. 10, and [0056] discloses a similar security system in which a sensing system, a camera, is mounted on a post facing a subject entering through a portal. The camera is posted between ranges of 1 to 25 feet. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen, Risi, and Glier, the configuration of the camera detection post disclosed in Waehner and replace the camera system with the radar detection system of Petrovsky to produce a security detection system that includes the capability of ascertaining the speed of a person using radar situated a particular distance. Such a system would act to improve not only the detection and identification of the individual going through the portal but also ascertain how fast the individual may be going through the portal, the addition of this feature would allow a security user to identify a suspect who may be in flight from the law, as opposed to the activity of a passenger who may not display the same exigent behavior.

23. **Claim 75** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 and Prehn, U.S. 2003/0117280.

As to claim 75, Viljoen discloses except for the claimed: Device according to **claim 31**, characterized in that it comprises a detection level for detecting the simultaneous passage of two people, comprising ultrasonic sensors (D4) arranged transversely to the passage. As disclosed in Viljoen, [0013], infrared beams are used to detect personnel traversing through the system. However, Viljoen, Risi, and Trajkovic fail to disclose the above limitations. In the same art of security detection systems, Prehn, [0031], discloses the use of ultrasonic detectors as well as photo electric eyes and infrared detectors to monitor the movement of individuals in a security system. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, Burley, and Trajkovic the alternative embodiment of using ultrasonic detectors to detect personnel as disclosed in Prehn to produce

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a security detection system that includes using ultrasonic detectors. As disclosed in Prehn, use of ultrasonic detectors is not new in the art and one of ordinary skill in the art would have known/recognized that such a detection scheme exists for security systems and therefore, one of ordinary skill would have had a likelihood of success incorporating this feature into the above combination found in the claimed limitations.

As to the claimed “detecting the simultaneous passage of two people,” neither Viljoen nor Risi nor Prehn disclose the above limitations. In the same art of personnel detection systems, Trajkovic, FIG. 5 and [0029] discloses detecting two personnel traversing abreast. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into the combination of Viljoen, Risi, and Prehn, the simultaneous personnel detection scheme disclosed in Trajkovic to produce a personnel detection system that includes the ability to detection of simultaneous individuals. Such a system would allow security personnel users to determine if more than one threat appears in a secured passageway.

24. **Claim 79** is rejected under 35 U.S.C. 103(a) as being obvious over Viljoen, EP 0559357 in view of Risi, U.S. 2002/0154012 and Buehler, U.S. 2004/0119848 and Ballantyne, U.S. 2003/0184440 and Trajkovic, U.S. 2002/0167408 and Prehn, U.S. 2003/0117280 and Flickner et al, U.S. 2003/0107649.

As to claim 79, Viljoen discloses except for the claimed: The device according to **claim 75**, wherein sensors for the detection level of the simultaneous passage of several people comprise at least three ultrasonic sensors (D4) arranged at the upper part of the entry (1) to the access door and orientated so as to diffuse their beam downwards. Viljoen, as previously disclosed, describes a security passage identification system that includes the use of infrared detectors displaced across from each other to perform detecting and classification duties. Prehn, [0031], discloses the use of ultrasonic detectors as well as photo electric eyes and infrared detectors to monitor the movement of individuals in a security system. However, neither discloses the use of ultrasonic detectors detecting simultaneous passage of personnel walking abreast by

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using ultrasonic detectors placed overhead. Trajkovic, FIG. 10, discloses the use of overhead detectors providing the detection and tracking of personnel below, but does not include the use of at least three sensors performing the task. In the same art of personnel detection and classification systems, Flickner, FIG. 1, discloses a detection and tracking system that includes the use of at least three overhead cameras to track and detect the people below. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Viljoen the overhead camera detection system disclosed in Flickner and replace the cameras with the ultrasound detectors disclosed in Prehn to produce a combination that would include the use of at least three ultrasonic detectors affixed overhead to provide detection and tracking system that utilizes the above limitations as claimed. Prehn provides an alternative embodiment of sensor choices while Flickner discloses the use of at least three overhead sensors as an alternative position embodiment. Such a system would increase a user's flexibility in the use different sensors to provide a broader spectrum of detection capabilities.

Response to Arguments

25. Applicant's arguments with respect to **claims 42-80** have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds for rejection are made.

Conclusion

26. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory

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action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAL EUSTAQUIO whose telephone number is (571)270-7229. The examiner can normally be reached on 8am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin C. Lee, can be reached at (571) 272-2963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/C. E./

Examiner, Art Unit 2612

/BENJAMIN C. LEE/

Supervisory Patent Examiner, Art Unit 2612